Infusion Pump CODAN ARGUS 707 / 708 V - Release Notes

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SWISS

ARGUS
CODAN

Version

A707 / A708 V
Firmware V4.51
Firmware V4.50
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Installation information

System Prerequisites:
- CODAN ARGUS*service* V5.06.19543 or higher (available as download from www.codanargus.com/login)
- Microsoft Windows XP with the latest service pack (SP2 or higher) or Windows 7 with the latest service pack (SP1 or higher)
- Microsoft .NET Framework 4.0 or higher (if required, update will be initiated by CODAN ARGUS*service* installer. Internet connection is required)
- A free serial RS232 COM Port for connecting the ARGUS cable. For USB-RS232 adapter, please ask CODAN ARGUS AG for references.

Product Improvement

Firmware V4.51

1. Firmware V4.51 update type

   ☒ Optional

   ☐ Recommended

   ☐ Required

2. Release Date
   3. September 2013

Change Description

3. Battery Management
   - With firmware V4.44, only about 50% of the battery capacity is actually used. This leads to the lazy battery effect. The user has no means to avoid this problem since the pump switches off automatically approx. 15 minutes after the battery alarm occurred. This makes it impossible to completely discharge the battery.
   The implementation of a battery maintenance mode allows the pump to remain in the on-state until the battery voltage drops below 9V. As a result, the battery can be discharged completely. The battery pre-alarm as well as the battery alarm functionality remain the same as usual.
   - Modification of the battery voltage limit used for battery alarm: The battery voltage limit is decreased by 0.2 V. This leads to a much longer operation time.
   - Implementation of an improved battery charging process, when the pump is OFF and inserted in the docking station. This feature serves to prevent an overcharge of the battery.

4. History log
   The external power supply sometimes causes several entries in the history log file ("external power on" / "external power off"). This issue is solved by implementing a filter routine in the firmware code to prevent multiple history entries.

Firmware V4.50

1. Firmware V4.50 update type

   ☒ Optional

   ☐ Recommended

   ☐ Required

2. Release Date
   4. January 2013

Change Description

3. 8-digit serial number
   The production of the new volumetric infusion pump generation CODAN ARGUS 717 / 718 V required a new serial numbering system. As a solution an EAN code with 8 digits was implemented. It was also necessary to expand the serial number for all existing infusion and syringe pumps (A606 S, A707 / A708 V, A100 / A60 M).

   Devices, which have been produced since 1 January 2013, already come with the new 8-digit serial number (V4.50). To keep the compatibility with existing docking station V4.4x, it is required to upgrade the docking firmware to V4.50 in order to recognize infusion pumps with the new 8-digit serial numbers. Volumetric infusion pumps A707 / A708 V with firmware V4.4x do not require a firmware update!

Firmware V4.44

1. Firmware V4.44 update type

   ☐ Optional

   ☒ Recommended

   ☐ Required

2. Release Date
   19. April 2012

Change Description

3. Due to continuous market observation, CODAN ARGUS AG came to the conclusion, that opportunities to configure air bubble detection are not always exhausted to the desired extent. In order to increase the device safety, the factory settings for air bubble detection have been changed. The modifications of the default values for A707 / A708 infusion pumps are defined as follows:

   - Index 43: Air volume accumulated → Yes
   - Index 315: Air summation volume (Set 1) → 5
   - Index 325: Air summation volume (Set 2) → 5
   - Index 335: Air summation volume (Set 3) → 5
   - Index 345: Air summation volume (set 4) → 5

Firmware V4.43

1. Firmware V4.43 update type

    ☒ Optional

    ☐ Recommended

    ☐ Required

2. Release Date
   8. August 2011

Change Description

3. Corrections of the stepper motor driver
   In firmware version V4.43 some security control function has been removed, because the feature caused undesired technical errors.

   Firmware version 4.42 has a security control function implemented, which checks whether the stepper motor is rotating during calibration or not. It was requested that in case of a failure the security control can release three (3) different technical alarms (F49, F51 and F52). Because of this newly inplemented security control, observations had shown that pumps may display undesired technical failures (F51 or F52). The root cause of this technical alarm was not because of motor stopping.

Firmware V4.42

1. Firmware V4.42 update type

   ☒ Optional

   ☐ Recommended

   ☐ Required

2. Release Date
   13 July 2011

Change Description

3. Improvement of the stepper motor driver
   In previous versions: It may happen that the motor of an infusion pump CODAN ARGUS 707 / 708 V sometimes stops rotating during the 1 bar calibration or during the volume calibration. Therefore several actions have been taken to prevent this misbehavior:

   - After a systematic analysis of the stepper motor driver, it was determined that the stepper motor driver was initialzed before the boost converter and the power supply (24V) to the step motor driver was activated. The sequence was turned around.
   - After powering up the stepper motor driver, a delay time of 10 ms is implemented before the driver is getting initialized.
   - To be certain that the stepper motor is rotating correctly during calibration, both HALL sensors on the sensor board were activated.

Firmware V4.41

1. Firmware V4.41 update type

   ☒ Optional

   ☐ Recommended

   ☐ Required

2. Release Date
   11. November 2010

Change Description

3. User defined medication
   The selection of a user defined medication leads to an undesired shift of the medication name on the display so that the name is not readable anymore. This misbehaviour is corrected.

4. Improvement of calibration process
   In previous versions: During the whole calibration process the pump usually delivers at a rate of 200 ml/h. In this case the 0.2 bar limit measurement is reached too quickly, which may lead to a wrong (too high) value being saved. This misbehavior is corrected by changing the rate to 100 ml/h (at 0.2 bar measurement). After this calibration step the pump switches back to the original rate of 200 ml/h.

Firmware V4.40

1. Firmware V4.40 update type

☐ Optional

☒ Recommended (in conjunction with the new occlusion sensor)

☐ Required

2. Release Date
   2. June 2010

Change Description

3. Extension of CODAN ARGUS*protocol*
   - Implementation of new command 43 (0x22): "Read medication". The length of the medication name is extended to 21 characters.
   - The total infused volume was not updated, when the volumetric infusion pump was in KVO mode. This is now corrected.
   - When the volumetric infusion pump was in KVO mode, the originally set infusion rate, instead of the KVO rate, was visible on the CODAN ARGUS*protocol*. This misbehaviour is corrected.

4. Improvement of the calibration process
   - The roll clamp value for the upstream sensor is saved automatically by adding a constant value (100mV) to the measured offset. This value is stored for all four (4) sets. Therefore the calibration step "uPSt rEAM" (chapter 6.3.6 "Calibrating the upstream sensor part 1" according to Service Manual for CODAN ARGUS 707 V, V4.3x) is not needed anymore and has been removed.
   - The sensitivity of the upstream occlusion sensor and the zero bar value are stored by fixed values for all four (4) sets automatically. The sensitivity is set to 400mV/bar, the zero bar value is set to 1500mV. As a result, the calibration of the upstream occlusion sensor is no longer used anymore and has been removed. This improvement shortens the calibration process considerably.

For more information, please contact us:

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